

## **Finding Better Feeds and Better Environments for Walleye Feed Training**

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Each year the Rathbun Fish Hatchery is asked to produce 80,000, 8-inch walleye and stock them into Rathbun Lake. Larger pellet fed walleye have better survival after stocking in the lake than small pond reared walleye. The result has been an increase in the number of broodstock walleye caught during our hatchery walleye spawning effort and number of walleye caught by anglers. We are now working on the methods and feeds needed to increase survival of pond reared walleye during their habituation to dry feeds. Habituation is a process of training a fish accustomed to a natural diet to eat a manufactured feed. The benefit of this research will be the increase in number and size of walleye available for stocking.

Formerly, the standard feed for walleye habituation, BioKyowa, was imported from Japan. In 2001, Japan had an outbreak of Mad Cow Disease (Bovine Spongiform Encephalopathy) and feed importation was halted. Therefore, a new focus of our research project is to find a feed to replace BioKyowa.

In 2003, four commercial fish feeds were selected for evaluation. Nutra HP and Lansy CW feeds performed well, about 50% of fingerlings fed either of those feeds survived the 28-day habituation study. Nutra HP and Lansy CW feeds were selected for a feed trial in 2004, and one additional diet, Gemma, was also compared to these diets. In our 2004 study, tanks of walleye fingerlings fed Lansy CW survived at a rate of 75%, compared to 55% of fish fed Gemma, and 44% for fish fed Nutra HP.

Another aspect of walleye culture we have been studying is modification of the culture environment to better suit walleye. Walleye eyes are designed for low light environments; therefore, intense light can cause the fish undue stress and we believe this reduced our habituation success in past years. Dark room environments, submerged raceway lighting and the attenuation of light with increased turbidity levels have proven beneficial to growth and survival of walleye at various life stages. However, our 2004 research showed that elevated turbidity levels did not improve habituation survival beyond the levels achieved by use of a dark room environment alone. The outcome of our research on dark room environments was implemented on a production scale at Rathbun Fish Hatchery last year.

The advances derived from this research will help our state fish hatcheries raise more walleye, more efficiently. The end product of these research efforts will be a better walleye fishing experience for the anglers of Iowa.